

# Series 9 valves and solenoid valves

5/2 and 5/3-way CC CO

Sizes 1 - 2 - 3

According to the standard ISO 5599/1



Series 9 electropneumatically or pneumatically operated valves have been designed with sizes 1, 2 and 3, as recommended by the ISO Standards. The ease of pneumatic and electrical wiring makes these valves extremely flexible.

## GENERAL DATA

<b>Operating pressure</b>	max. press. 10 bar (for minimum pressures see descriptions)
<b>Nominal pressure</b>	6 bar
<b>Nominal flow</b>	ISO 1 = 900 NL/min ISO 2 = 1610 NL/min ISO 3 = 4350 NL/min
<b>Operating temperature</b>	0 ÷ 60°C (with dry air at -20°C)
<b>Fluid</b>	filtered air, without lubrication. If lubricated air is used, it is recommended to use ISOVG32 oil and to never interrupt the lubrication.
<b>Electropneumatic interface</b>	according CNOMO Standards

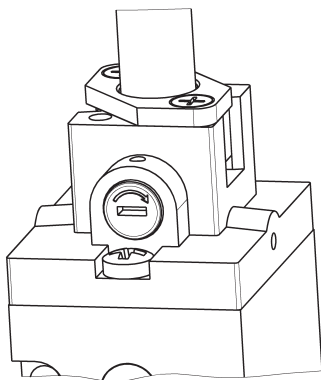
**CODING EXAMPLE**

<b>9</b>	<b>5</b>	<b>1</b>	<b>-</b>	<b>000</b>	<b>-</b>	<b>P16</b>	<b>-</b>	<b>23</b>	<b>-</b>	<b>U7</b>	<b>7</b>
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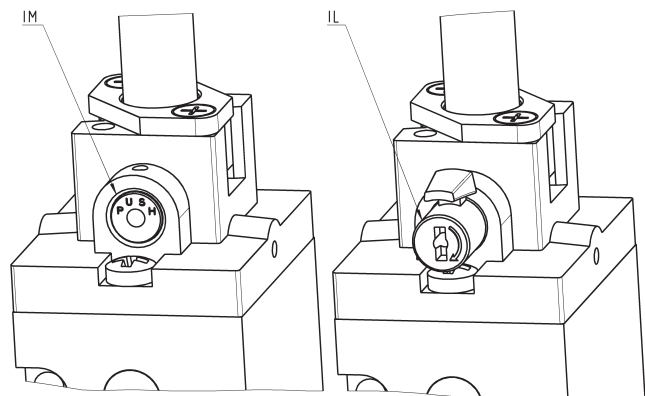
<b>9</b>	SERIES
<b>5</b>	NUMBER OF WAYS - POSITIONS: 5 = 5/2 6 = 5/3 CC 7 = 5/3 CO
<b>1</b>	SIZE: 1 = size 1 2 = size 2 3 = size 3
<b>000</b>	BODY DESIGN: 000 = valve body
<b>P16</b>	ACTUATION: 33 = pneumatic, pneumatic return 34 = pneumatic, differential pneumatic return 35 = pneumatic, mechanical spring return P11 = double solenoid (horizontal solenoids) P15 = single solenoid, spring return (horizontal solenoids) P16 = solenoid, pneumatic spring return (horizontal solenoids)
<b>23</b>	SOLENOID INTERFACE AND MANUAL COMMAND: 23 = A531-BC2 standard bistable manual override 23IL = A531-BC2 lever type bistable manual override 23IM = A531-BC2 monostable manual override
<b>U7</b>	SOLENOID MATERIAL / SOLENOID DIMENSIONS: A8 = PPS / 30 x 30 G7 = PA / 22 x 22 G8 = PA / 30 x 30 (24 V DC only) G9 = PA / 22 x 58 H8 = PA 6 V0 / 30 x 30 U7 = PET / 22 x 22
<b>7</b>	SOLENOID VOLTAGE (see the dedicated section 2.35)

SERIES 9 VALVES AND SOLENOID VALVES

**TYPES OF MANUAL OVERRIDE**



Example of solenoid valve with a bistable standard manual override.



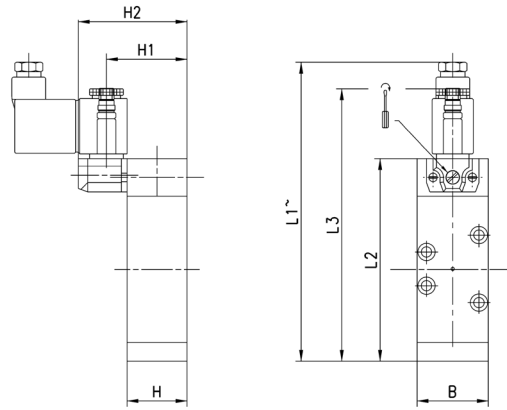
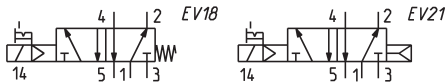
Example of solenoid monostable valve (IM) and bistable valve with a lever type manual override (IL).

### 5/2-way solenoid valves, monostable - ISO 1, ISO 2, ISO 3



Available with electropneumatic actuation and spring return, they are suitable for mounting on a sub-base.

The following is supplied:  
1x interface seal  
4x fixing screws



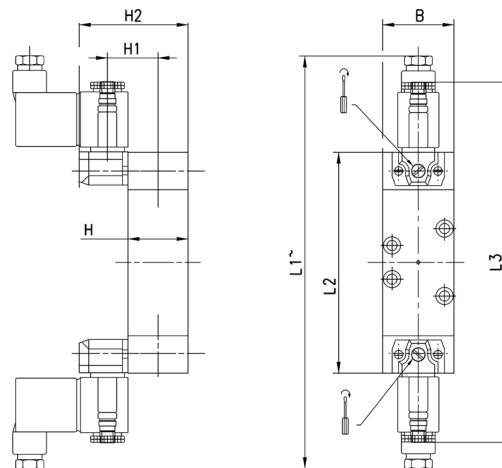
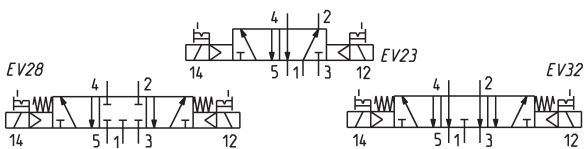
DIMENSIONS										
Mod.	Size ISO	B	L1	L2	L3	H	H1	H2	Min. operating pressure	Symbol
951-000-P15-23	1	38	153	108	146	32	43	58	2.5	EV18
952-000-P15-23	2	51	173	128	166	33	44	59	2.5	EV18
953-000-P15-23	3	65	218	173	211	45	56	71	2.5	EV18
951-000-P16-23	1	38	153	108	146	32	43	58	2.5	EV21
952-000-P16-23	2	51	173	128	166	33	44	59	2.5	EV21
953-000-P16-23	3	65	218	173	211	45	56	71	2.5	EV21

### 5/2-way, 5/3-way solenoid valves, bistable - ISO 1, ISO 2, ISO 3



Available with electropneumatic actuation and spring return, they are suitable for mounting on a sub-base.

The following is supplied:  
1x interface seal  
4x fixing screws



DIMENSIONS										
Mod.	Size ISO	B	L1	L2	L3	H	H1	H2	Min. operating pressure	Symbol
951-000-P11-23	1	38	208	118	194	32	43	58	2	EV23
952-000-P11-23	2	51	228	138	214	33	44	59	2	EV23
953-000-P11-23	3	65	273	183	259	45	56	71	2	EV23
961-000-P11-23	1	38	208	118	194	32	43	58	2.5	EV28
962-000-P11-23	2	51	228	138	214	33	44	59	2.5	EV28
963-000-P11-23	3	65	273	183	259	45	56	71	2.5	EV28
971-000-P11-23	1	38	208	118	194	32	43	58	2.5	EV32
972-000-P11-23	2	51	228	138	214	33	44	59	2.5	EV32
973-000-P11-23	3	65	273	183	259	45	56	71	2.5	EV32

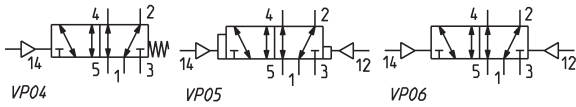
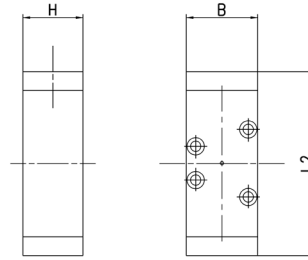
### 5/2-way valves, monostable, bistable - ISO 1, ISO 2, ISO 3



The Series 9 valves with ISO interface, size 1, 2 and 3, are available with the following types of actuation:

- pneumatic, with spring return
- pneumatic actuation and differential return
- pneumatic actuation and return

The following is supplied:  
1x interface seal  
4x fixing screws



DIMENSIONS							
Mod.	Size ISO	B	L2	H	Min. pilot pressure (bar)	Working pressure (bar)	Symbol
951-000-35	1	38	98	32	2.5	-0.9 ÷ 10	VP04
952-000-35	2	51	118	33	2.5	-0.9 ÷ 10	VP04
953-000-35	3	65	163	45	2.5	-0.9 ÷ 10	VP04
951-000-34	1	38	98	32	2	-0.9 ÷ 10	VP05
952-000-34	2	51	118	33	2	-0.9 ÷ 10	VP05
953-000-34	3	65	163	45	2	-0.9 ÷ 10	VP05
951-000-33	1	38	98	32	2	-0.9 ÷ 10	VP06
952-000-33	2	51	118	33	2	-0.9 ÷ 10	VP06
953-000-33	3	65	163	45	2	-0.9 ÷ 10	VP06

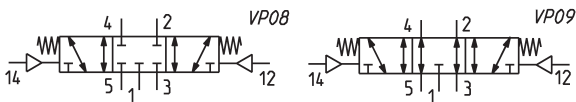
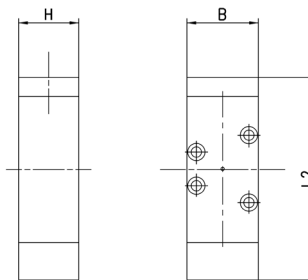
### 5/3-way valve, monostable, with stable central position - ISO 1, 2, 3



The Series 9 valves with ISO interface, size 1, 2 and 3, are available with pneumatic actuation and central resetting by a spring. There are two types of function:

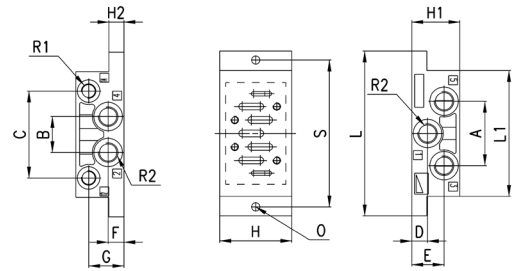
- with closed centres
- with open centres

The following is supplied:  
1x interface seal  
4x fixing screws



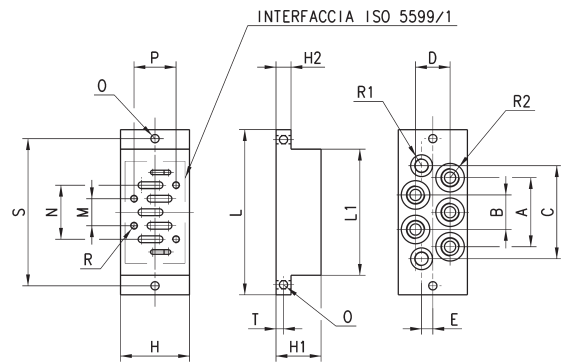
DIMENSIONS							
Mod.	Size ISO	B	L2	H	Min. pilot pressure (bar)	Working pressure (bar)	Symbol
961-000-33	1	38	108	32	2.5	-0.9 ÷ 10	VP08
962-000-33	2	51	128	33	2.5	-0.9 ÷ 10	VP08
963-000-33	3	65	173	45	2.5	-0.9 ÷ 10	VP08
971-000-33	1	38	108	32	2.5	-0.9 ÷ 10	VP09
972-000-33	2	51	128	33	2.5	-0.9 ÷ 10	VP09
973-000-33	3	65	173	45	2.5	-0.9 ÷ 10	VP09

**Single sub-base side outlets (VDMA 24345)**



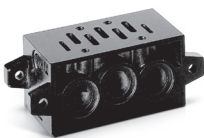
DIMENSIONS																	
Mod.	Size	A	B	C	D	E	F	G	H	H1	H2	L	L1	O	R1	R2	S
901-F1A	1	43	24	58	10.5	21.5	10.5	23.5	48	32	10	110	84	5.5	G1/8	G1/4	98
902-F2A	2	56	30	74	14	26	14	30	57	40	13	124	95	6.5	G1/8	G3/8	112
903-F3A	3	68	32	90	17	17	17	22	71	32	18	149	119	6.5	G1/8	G1/2	136

**Single sub-base with rear outlets (VDMA 24345)**

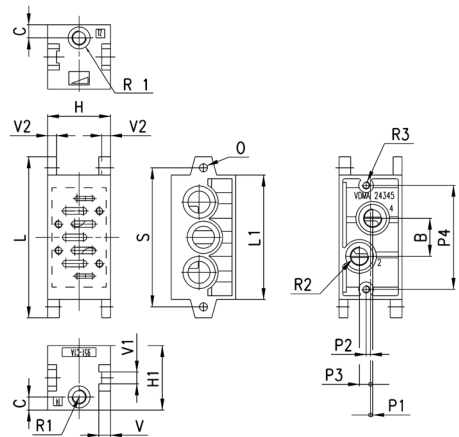


DIMENSIONS																				
Mod.	Size	A	B	C	D	E	H	H1	H2	L	L1	M	N	O	P	R	R1	R2	S	T
901-G1A	1	46	23	61	23	7.5	46	30	10	110	84	18	36	5.5	28	M5	G1/8	G1/4	98	5
902-G2A	2	56	28	72	28	8	56	35	13	124	95	24	48	6.5	38	M6	G1/8	G3/8	112	6.5
903-G3A	3	68	34	90	34	10	71	32	18	149	119	32	64	6.5	48	M8	G1/8	G1/2	136	9

**Manifold sub-base with com. exhausts and inlet (VDMA 24345)**



The following is supplied:  
 2x fixing screws  
 3x O-ring



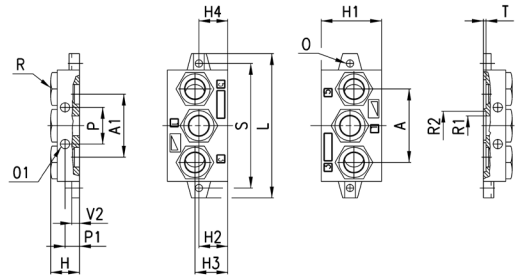
DIMENSIONS																			
Mod.	Size	B	C	H	H1	L	L1	O	P1	P2	P3	P4	R1	R2	R3	S	V	V1	V2
901-C1A	1	26	8.5	43	44	110	85	5.5	1.5	3	7.5	71	G1/8	G1/4	M5	95	8	8	6
902-C2A	2	30	9	56	45	135	100	6.5	5	3	6	86	G1/8	G3/8	M6	115	11	11	8
903-C3A	3	38	10	71	54	190	140	9	6	3	8	130	G1/8	G1/2	M8	168	13	13	8

Note: complete with fixing screws and O-ring.

### End block for manifold sub-base (VDMA 24345)



The following is supplied:  
2x end blocks (1 pair)  
2x fixing screws  
3x OR

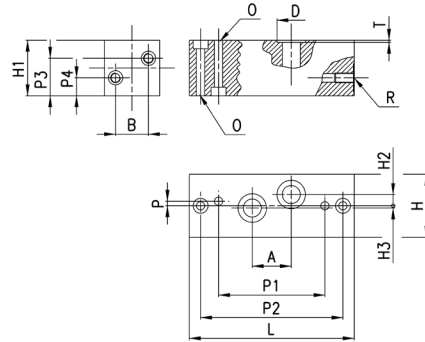


DIMENSIONS		Mod.	Size	A	A1	H	H1	H2	H3	H4	L	O	O1	P	P1	R	ØR1	ØR2	S	T	V2
901-H1	1	56	48	22	46	22	25	22	110	5,5	7	28	11	G3/8	15	22,1	95	2	6		
902-H2	2	68	63	26	47	23	25	24	135	6,5	9	35	13	G1/2	18,5	28,7	115	2	8		
903-H3	3	104	94	30	56	22	25	25	190	9	12	52	15	G1	28	38	168	2,7	8		

### Interface with front outlets (VDMA 24345)



The following is supplied:  
2x fixing screws  
2x OR

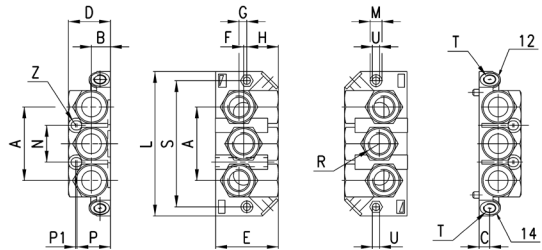


DIMENSIONS		Mod.	Size	A	B	D	H	H1	H2	H3	L	O	P	P1	P2	P3	P4	R	T
901-N1	1	26	22	19	42	37	7.5	1.5	110	5.5	3	71	95	25	12	G1/4	1.4		
902-N2	2	30	29	23	55	40	6	5	135	6.5	3	86	115	26	14	G3/8	1.4		
903-N3	3	38	36	27	70	45	8	6	190	9	3	130	168	29	17	G1/2	1.4		

### End blocks for manifold bases with front outlets

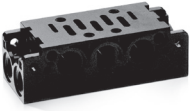


The following is supplied:  
2x end blocks (1 pair)  
2x fixing screws  
3x OR

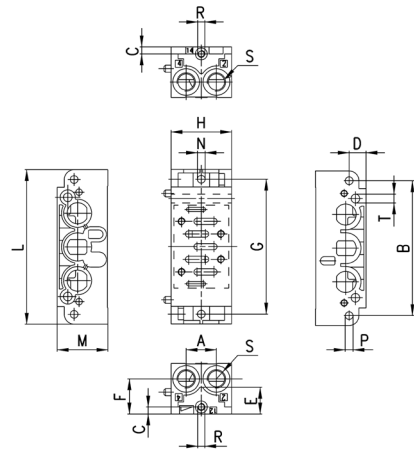


DIMENSIONS		Mod.	Size	A	B	C	D	E	F	G	H	L	M	N	P	P1	R	S	T	U	Z
901-HN1	1	56	14.5	8	32	48	2.5	6	24	110	9	28	25.5	1	3/8"	96	G1/8	5.5	3.5		

### Manifold bases with comm. inlet and exhaust ports and front outlet

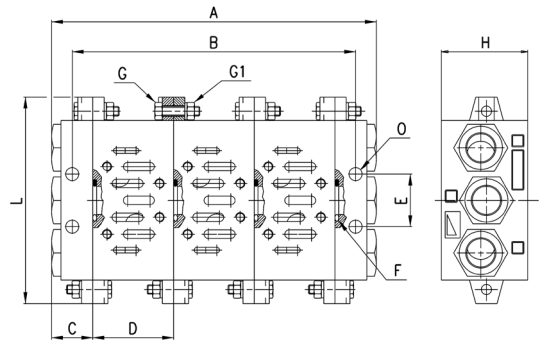


The following is supplied:  
 2x fixing screws  
 3x OR



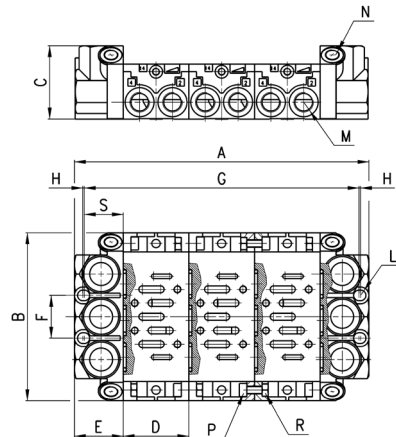
DIMENSIONS																
Mod.	Size	A	B	C	D	E	F	G	H	L	M	N	P	R	S	T
901-N1A	1	21.5	96	5	12	19	25	96	43	110	36	5.5	5.5	M5	G1/4	6.2

### Assembly of manifold sub-base (VDMA 24345)



DIMENSIONS													
Size	A	B	C	D	E	FOR	UNI 5739 G	UNI 57588 G1	H	L	O		
1	n°D+2C	n°D+C	22	43	28	3068	M5X20	M5	46	110	7		
2	n°D+2C	n°D+C	26	56	35	3093	M6X25	M6	47	135	9		
3	n°D+2C	n°D+C	30	71	52	4125	M8X25	M8	56	190	12		

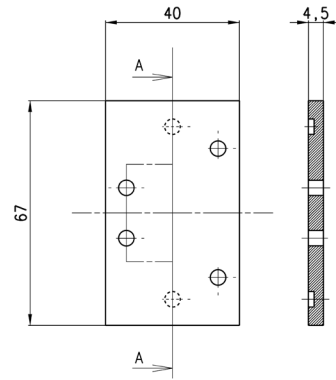
### Assembly for front outlet manifold sub-bases



DIMENSIONS														
Size	A	B	C	D	E	F	G	H	L	M	N	UNI 5931 P.	UNI 5588 R	S
1	N° D+2E	110	48	43	32	28	n°D+25	1	3,5	G1/4	G1/8	M5X14	M5	25,5

### Cover plate for unused positions

The following is supplied:  
1x seal  
4x screws

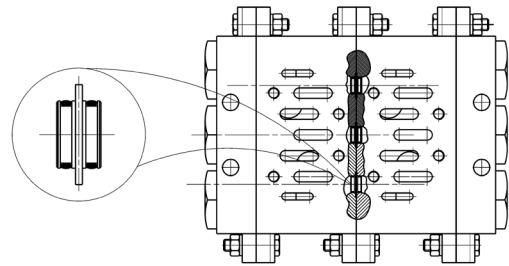


Mod.  
901-TP

### Mounting example



Separation tap lines 1 - 3 - 5 to be used with manifold type 901-C1A and 902-C2A

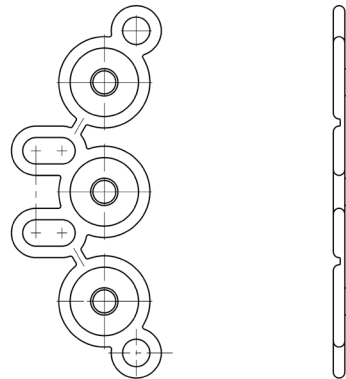


Mod.  
901-C1A/TP  
902-C2A/TP

### Separation joint



Separation joint to be used with manifold type 901N



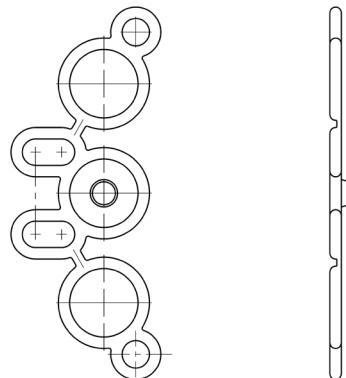
1 - 3 - 5 closed

Mod.  
901-N1A/T

### Separation joint



Separation joint to be used with manifold type 901N.  
P plugged.



1 closed

Mod.  
901-N1A/TP